

A REVISED SYSTEMATIC PLACEMENT FOR *AUSTROTROMBELLA* SOUTHCOTT (ACARINA: HYDRYPHANTIDAE)

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Summary

HARVEY, M. S. (1996) A revised systematic placement for *Austrotrombella* Southcott (Acarina: Hydryphantidae). *Trans. R. Soc. S. Aust.* 120(1), 37-40, 31 May, 1996.

Austrotrombella leprosa Southcott, 1991, is transferred from the Trombellidae (Trombidoidea) to the Hydryphantidae (Hydryphantoidea) and compared with other thyasines of the *Panisellus* group.

KEY WORDS: Taxonomy, Acarina, Hydryphantidae, *Austrotrombella*, Trombellidae, South Australia.

Introduction

The monotypic genus *Austrotrombella* Southcott, 1991, was recently described from four unusual specimens collected from wet shellgrit and soil beside the edge of a swamp near Robé, South Australia. The sole species, *A. leprosa*, was extensively described and illustrated by Southcott (1991) and placed in the trombellioid family Trombellidae. However, examination of the type specimens lodged in the South Australian Museum (SAM), reveals that the genus is misplaced and more closely resembles water mites of the family Hydryphantidae than mites of the family Trombellidae. A redescription of the genus is presented here, along with an examination of its systematic position within the Hydryphantidae.

Terminology mostly follows Cook (1974).

Family Hydryphantidae Piersig, 1896

Genus *Austrotrombella* Southcott, 1991

Austrotrombella Southcott, 1991: 207-208.

Type species: *Austrotrombella leprosa* Southcott, 1991, by monotypy.

Diagnosis

Differs from all other mites by the following combination of characters: pedipalpal tibia with distal seta; swimming hairs absent; lateral eyes in capsules; idiosoma with numerous large plates; median eye present and situated near posterior margin of prefrontalia; three pairs of acetabula in anterior group.

Remarks

Although regarded by Southcott (1991) as a member of the trombellioid family Trombellidae, *Austrotrombella* has more in common with the water mite family Hydryphantidae. In particular, the chelate morphology of the pedipalp, with a prominent dorso-distal libial seta and a subdistally positioned tarsus, is virtually

diagnostic for the family (Cook 1974) and is completely unlike trombellids and other trombidooids which have the tarsus inserted subbasally on the tibia (e.g. Womersley 1934). In addition, the idiosoma lacks the dense vestiture of setae characteristic of most adult and nymphal trombidooids which is, instead, represented by longitudinal series of glandularia [termed 'cupolae' by Southcott (1991)].

The presence of lateral eyes in capsules and the lack of swimming hairs places the genus within the Thyasinae (Cook 1974) and the large dorsalia and ventralia suggest a strong similarity with the *Panisellus* group as defined by Bader (1985). This group contains *Panisellus* K. Viets (with *P. thiennemanni* (K. Viets) from northern Europe), *Placothyas* Lundblad (with *P. octopora* (K. Viets) from South Africa), *Octothyas* Lundblad (with *O. hewittae* Lundblad from South Africa), *Parathyas* Lundblad (with *P. thoracata* Piersig and *P. primitiva* Lundblad from Europe and North Africa) and *Thyasella* K. Viets (with *T. mandibularis* (Lundblad) from northern Europe). Therefore, *Austrotrombella* and its sole species, *A. leprosa*, is here transferred to the hydryphantid subfamily Thyasinae.

Austrotrombella leprosa differs from these other genera in a number of small but significant ways. It closely resembles *Panisellus* and *Placothyas* in the location of the postocularia within the prefrontalia and it differs from all members of the group by the possession of three pairs of acetabula in the anterior group (1-2 pairs in all others) and by the inclusion of the acetabula on to the genital flaps (published illustrations of all other genera appear to indicate that they are separate). It further differs from *Panisellus* by the presence of a median eye (absent in *Panisellus*) and from *Placothyas* by the posterior position of the median eye on the prefrontalia (situated near anterior margin in *Placothyas*) and the presence of 6-8 pairs of acetabula in the posterior group (2 pairs in *Placothyas*).

This species is only the second thyasine reported from Australia. The first, *Notopanisus vinudus* Harvey from Tasmania, differs by the lack of large dorsalia and ventralia (Harvey 1988).

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Austrotrombella leprosa Southcott, 1991
(FIGS 1-8)

Austrotrombella leprosa Southcott, 1991: 208-211, Figs 1, 2, 3a-e, 4a-c.

Material Examined

Holotype: ♀, map reference (Penola 1: 250 000) 283411, Robe district, S.Aust. [37°12'S 139°47'E], in wet, alkaline, shellgrit-containing soil near swamp edge, under a stand of *Leptospermum lanigerum* (Aiton) Smith, 22.iii.1990, R. V. Southcott (SAM N1991112).

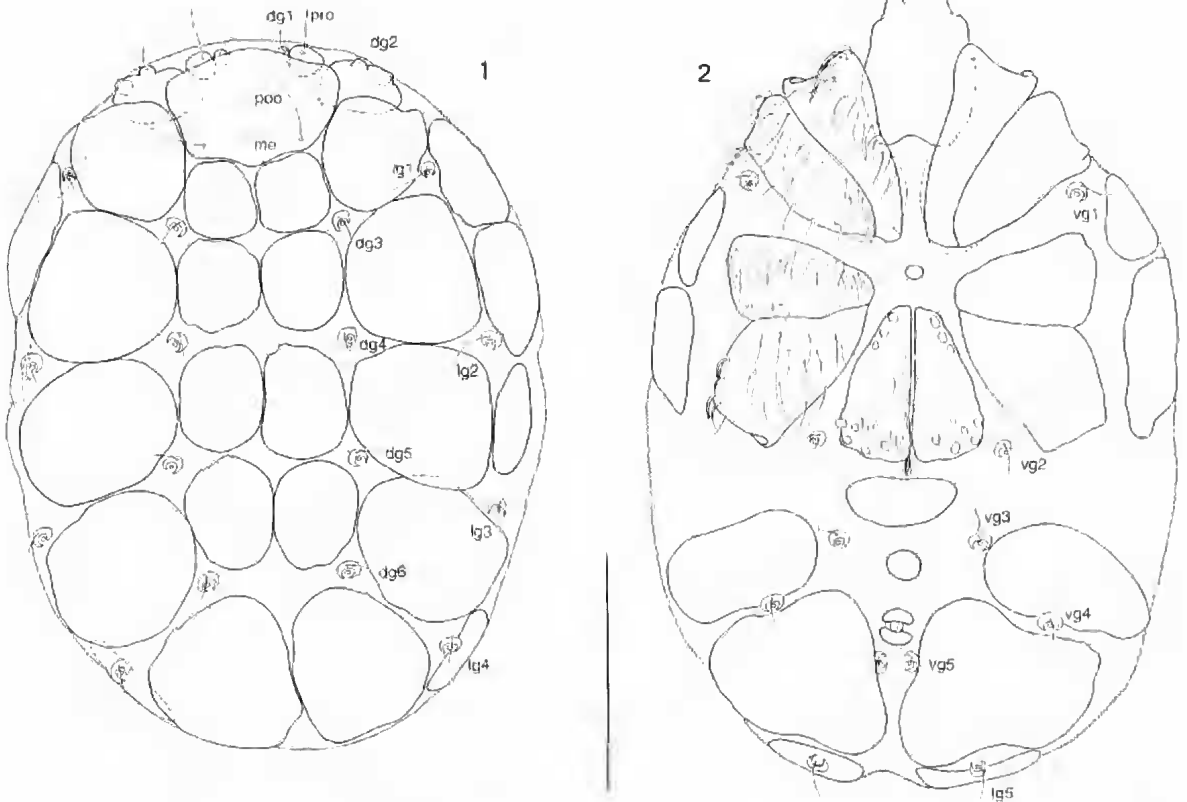
Paratypes: 1 ♀, 1 ♂, 1 deutonymph, same data as holotype (SAM N1991113-115).

Diagnosis

As for genus.

Description of adult

Integument slightly papillate. Lateral eyes on ocular capsules; anterior-lateral eye (not visible in Fig. 1) slightly larger than posterior-lateral eye; postocularia slightly posterior to median eye, situated near posterior margin of prefrontalia (Fig. 1). Idiosoma with numerous porose platelets arranged as follows: large prefrontalia; 1 pair of postfrontalia; 4 pairs of dorsocentralia, posterior pair larger than others; 4 pairs of dorsolateralia; 4 pairs of auxiliary platelets; 9 ventral platelets, 1 between coxal plates, 2 behind genital region, 2 pairs flanking anus, 1 pair situated posteriorly. Six pairs of dorsoglandularia, 5 pairs of lateroglandularia, 5 pairs of ventroglandularia (Figs 1, 2); sclerites associated with glandularia not forming full circle (Figs 1, 2); vg2 situated near postero-lateral margin of genital flaps and directed posterior-laterally;



Figs 1-2. *Austrotrombella leprosa* Southcott, holotype ♀. 1. Idiosoma, dorsal. 2. Idiosoma, ventral (setae omitted from one side). Abbreviations: dg1-6, dorsoglandularia; lg1-5, lateroglandularia; me, median eye; poo, postocularia; pro, preocularia; vg1-5, ventroglandularia. Scale bar = 500 µm.

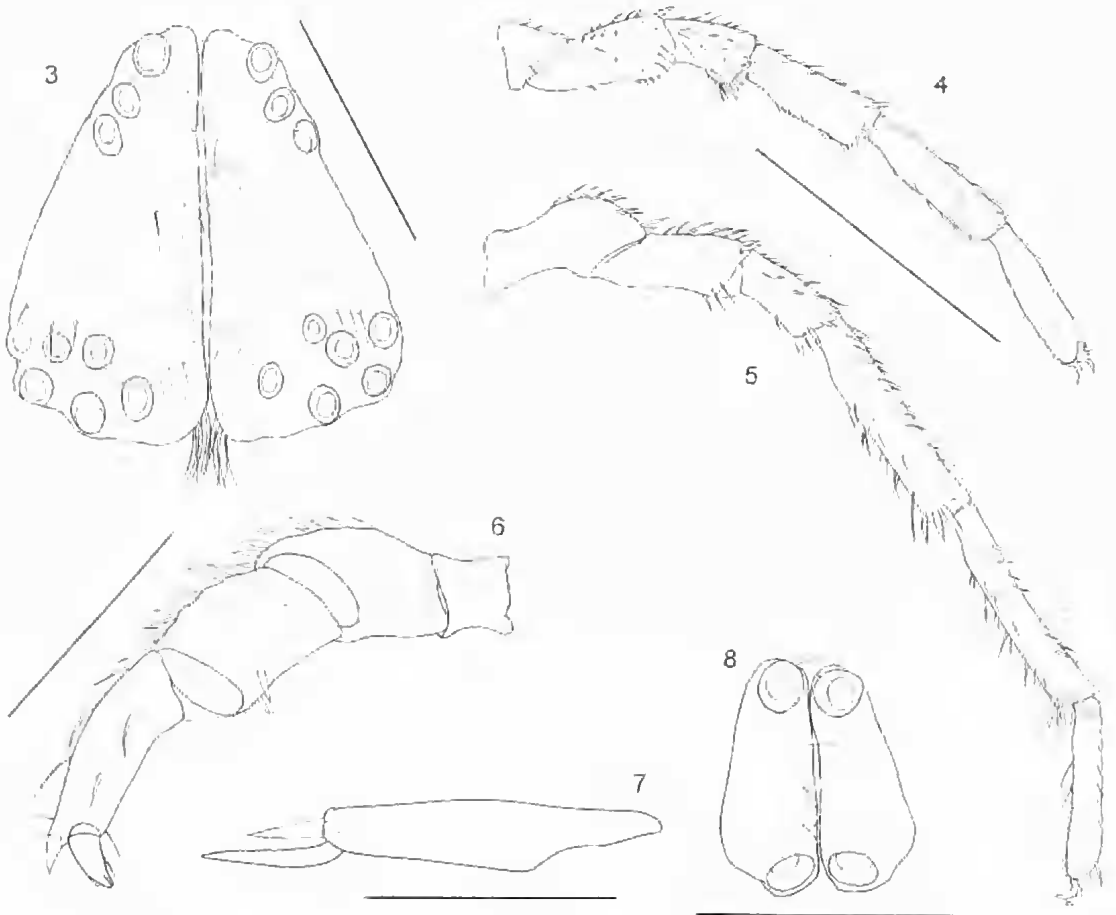
vg3 situated on level mid-way between genital flaps and anus; vg4 situated on same level as anus; vg5 situated much closer to anus than to posterior margin of body (Fig. 2). Genital region (Fig. 3): genital flaps with setae on mesal edge and scattered over posterior third; 9-11 pairs of acetabula, 3 pairs situated in anterior third, remainder (varying from 6-8 per side) situated on posterior third, all acetabula circular. Chelicera (Fig. 7) of normal proportions, cheliceral claw curved, with several teeth; cheliceral lamella about two-thirds as long as claw, serrate. Capitulum without long, downturned anterior extension. Pedipalp (Fig. 6): tibia with a thickened sub-medial seta on medial surface and with stout distal seta. Pedal coxae covered with long, thick setae (Fig. 2). Legs (Figs 4, 5) without swimming setae but most segments with numerous thick setae. Pedal claws completely smooth (Figs 4, 5). Anus surrounded by thick sclerotized ring (Fig. 2).

Dimensions (μm): holotype ♀: body length 1464,

width 1098; capitulum length 390; chelicera length 367; genital field length 333, width 314; pedipalp: trochanter 63, femur 139, patella 112, tibia 195, tarsus 51; leg I: trochanter 111, femur 250, patella 182, tibia 236, metatarsus 269, tarsus length 255, width 64; leg IV: trochanter 250, femur 276, patella 179, tibia 378, metatarsus 380, tarsus length 300, width 52.

Paratype ♀: body 1488/1104; capitulum length 435, chelicera length 385; genital field 381/346; pedipalp: not measurable; leg I: trochanter 109, femur 287, patella 173, tibia 262, metatarsus 302, tarsus 280/72; leg IV: trochanter 303, femur 321, patella 210, tibia 443, metatarsus 443, tarsus 350/58.

Paratype ♂: body 1408/1024; capitulum length 358; chelicera length 318; genital field 288/276; pedipalp: not measurable; leg I: trochanter 106, femur 251, patella 140, tibia 218, metatarsus 255, tarsus 266/59; leg IV: trochanter 230, femur 243, patella 163, tibia 336, metatarsus 362, tarsus 288/45.



Figs 3-8. *Austrotrombella leprosa* Southcott, 3-7, holotype ♀. 3. Genital field. 4. Right leg I. 5. Right leg IV. 6. Right pedipalp. 7. Left chelicera. 8. Provisional genital field, paratype deutonymph. Scale bars = 200 μm 3, 6, 7; 500 μm 4, 5; 100 μm 8.

Description of deutonymph

Much as in adult except as follows: genital flaps with 2 pairs of acetabula situated at anterior and posterior ends of flaps (Fig. 8).

Dimensions (μm): body length 582, width 406; genital field length 102, width 83.

Acknowledgments

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